Version 2.0 Supercharger Pulley +5%, 0%, 15%, 17% and 19% Reductions

092406

Thank you for purchasing the ALTA Performance supercharger pulley. Persons experienced in the proper operation of MINI engine systems and components should only perform this installation. Please read through all the instructions before performing the installation. **NOTE: THIS PULLEY IS DESIGNED FOR "OFF-ROAD" USE ONLY! CHECK WITH FEDERAL AND LOCAL AUTHORITIES PRIOR TO INSTALLATION. LEGAL ONLY IN CA FOR RACING VEHICLES WHICH MAY NEVER BE USED UPON A HIGHWAY. ALTA PERFORMANCE IS NOT RESPONSIBLE FOR REPAIRS NECESSARY AS A RESULT OF MIS-INSTALLATION!**

SPECAIL NOTES:

- Use of the factory service manual, can be very helpful during the installation. These can be purchased as the dealership, or online. http://www.realoem.com has diagrams for the entire car, which can also be helpful.
- If attempting to install pulley your self, read through all instructions, and determine if installation is appropriate for you.
- The use of a proper 3/8" drive in-lbs torque wrench is necessary for this installation. DO NOT use ft-lbs wrench!

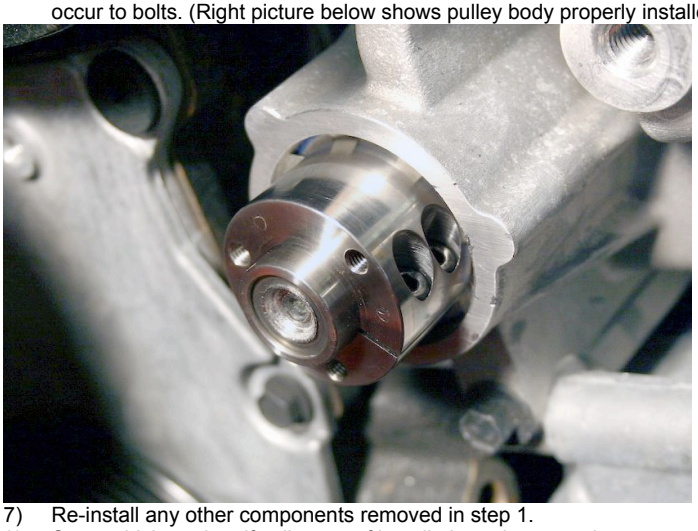
Parts included with your Mini Supercharger pulley

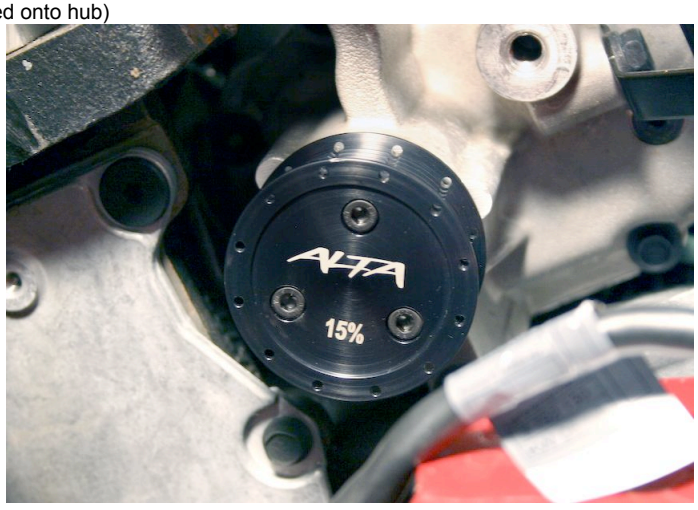
- **Alta SC pulley hub**
- **Alta SC pulley body in +5, 0%, 15%, 17%, or 19% sizes.**
- **(5) M5x16 Socket head screws**
- **(5) M5 Hi-Collar lock washers**
- **(1) Version 2.0 badge**

Checked By_____

Quick Instructions

1) Remove factory supercharger pulley using methods below, and available ALTA puller. Clean exposed shaft of supercharger of any grease or oil. Non-chlorinated brake cleaner is highly recommended.
2) Remove each of the (3) socket head bolts and lock washers from the pulley body and separate both halves.
3) Slide ALTA SC pulley hub over supercharger shaft until it bottoms out on end of supercharger. This locates SC pulley onto shaft of supercharger.
4) Tighten each M5 screw to 10 in-lbs (1.2NM). Continuing to tighten screws to 30 in-lbs(3.4NM), 60 in-lbs(6.8NM), and finally 80 in-lbs(9NM). Recheck on all bolts after final torque sequence. Make sure to use Inch-Pounds or Newton Meters, not FOOT-POUNDS, or damage may occur to bolts and pulley if bolts are torqued improperly. (Left picture below shows hub installed properly onto shaft)
5) Slide ALTA SC pulley body over ALTA SC hub. Install M5 screws through body into hub and tighten by hand. Some slight rotating of pulley may be needed to align screws.
6) Tighten each bolt to 10 in-lbs (1.2NM). Continuing to work in the same pattern tighten to 30 in-lbs(3.4NM), 60 in-lbs(6.8NM), and finally 80 in-lbs(9NM). Recheck on all bolts after final torqueing. Make sure to use Inch-Pounds or Newton Meters, not FOOT-POUNDS, or damage may occur to bolts. (Right picture below shows pulley body properly installed onto hub)





7) Re-install any other components removed in step 1.
8) Start vehicle and verify all steps of installation prior to road test.
9) Road test vehicle to ensure proper operation.

CRANK PULLEY SIZE

SUPERCHARGER PULLEY SIZE	+5% Supercharger Puley for Twurbo kit uses #060547	Stock Crank Pulley	2% Oversized	3% Oversized	4% Oversized
	Stock Supercharger Pulley	Stock or NAPA Belt #060547	Stock or NAPA Belt #060547	Stock or NAPA Belt #060547	NAPA Belt #060547
	15% Supercharger Pulley	Stock belt	Stock or NAPA Belt #060547	Stock or NAPA Belt #060547	Stock or NAPA Belt #060547
	17% Supercharger Pulley	NAPA Belt #060539	NAPA Belt #060539	NAPA Belt #060539	Stock or NAPA Belt #060547
	19% Supercharger Pulley	NAPA Belt #060535	NAPA Belt #060539	NAPA Belt #060539	NAPA Belt #060539

Common Questions

- Do I need to retighten my pulley after a period of time? No, as long as the bolts are torqued correctly.
- I need to remove my OEM pulley, how do I do that? Give us a call, we rent, or sell the pulley puller to anyone.
- My car makes a squealing noise, why?? NOTE: Squealing of the belt is not normal. Pulley misalignment, or a faulty belt tensioner generally causes this. Re-check installation of SC pulley and check belt tensioner for defects. A new factory serpentine belt is highly recommended on cars with over 20k miles.

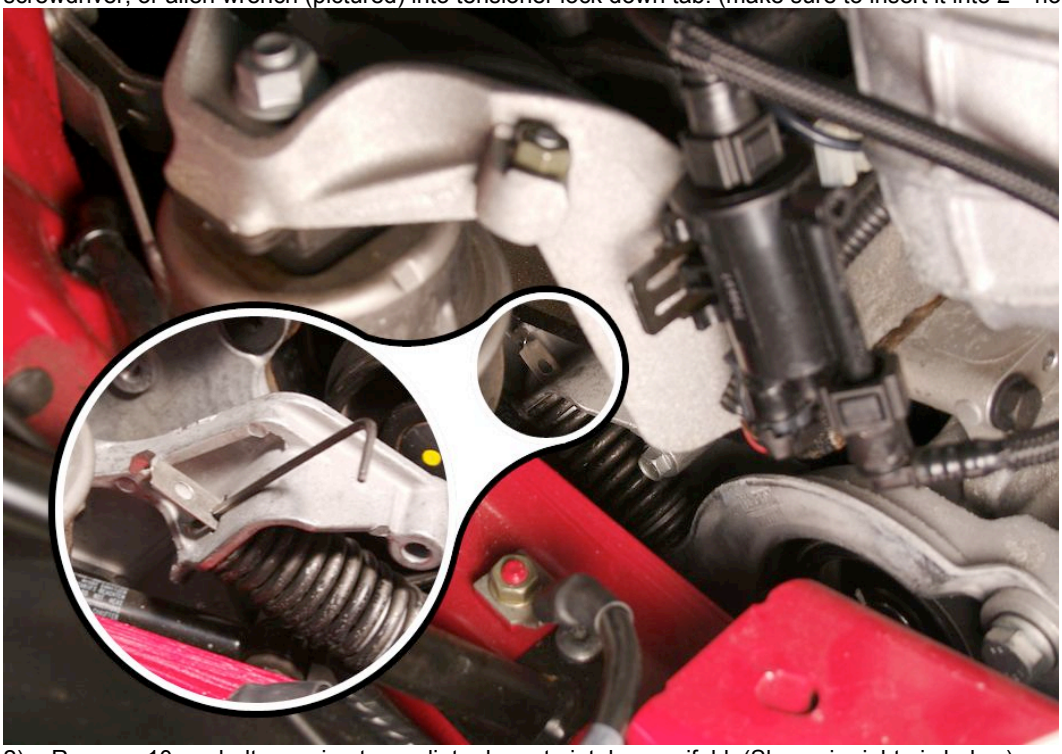
NOTE: MOST CUSTOMERS WILL NOTICE A HIGHER LEVEL OF ENGINE NOISE AND SUPERCHARGER WHINE. THIS IS A NORMAL BYPRODUCT OF PULLEY INSTALLATION AS THE SUPERCHARGER IS SPINNING AT A HIGHER RATE OF SPEED.
AS WITH ALL HIGH PERFORMANCE MODIFICATIONS USE OF PREMIUM FUEL IS REQUUIRED WITH THIS PULLEY.

ALTA recommends these parts to go with your ALTA Version 2.0 Reduction SC pulley.

- ***Alta Cold Air Intake System***
- ***Alta 2.5" Catback exhaust***
- ***Alta lightened Crank pulley in 0%, +2%, +3%, and +4%***
- ***Colder range spark plugs***

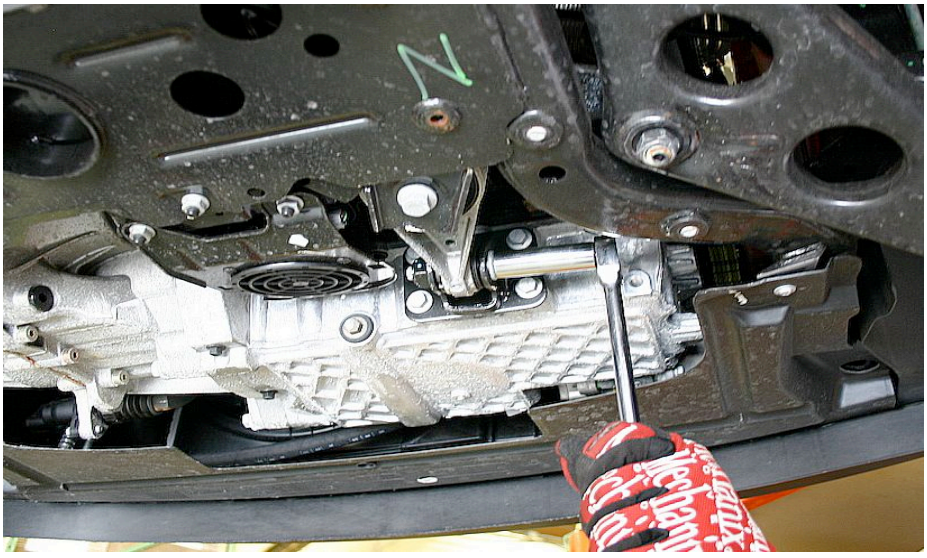
ALTA In-Depth Supercharger pulley removal:

1) Using Mini serpentine belt tensioner tool, or suitable pry bar, relieve tension on serpentine belt, and insert a long small screwdriver, or allen wrench (pictured) into tensioner lock down tab. (make sure to insert it into 2nd hole, as shown below)



2) Remove 10mm bolt securing top radiator hose to intake manifold. (Shown in right pic below)
3) Remove (4) 10mm bolts holding coil pack to top engine. (Shown in left pic below)

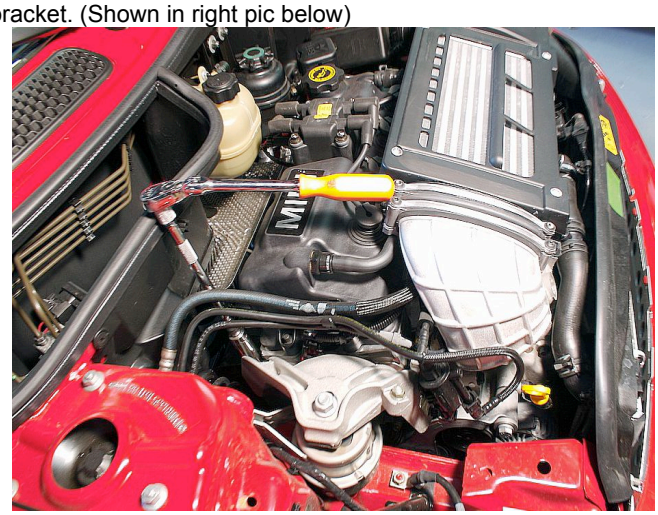
4) Remove lower motor mount bolt. Use 16mm wrench to remove bolt. (Shown in pic below)
5) Place suitable jack under engine oil, making sure to put a small piece of wood between jack and pan. Lift Jack to bottom of pan and lift engine up approximately .25".



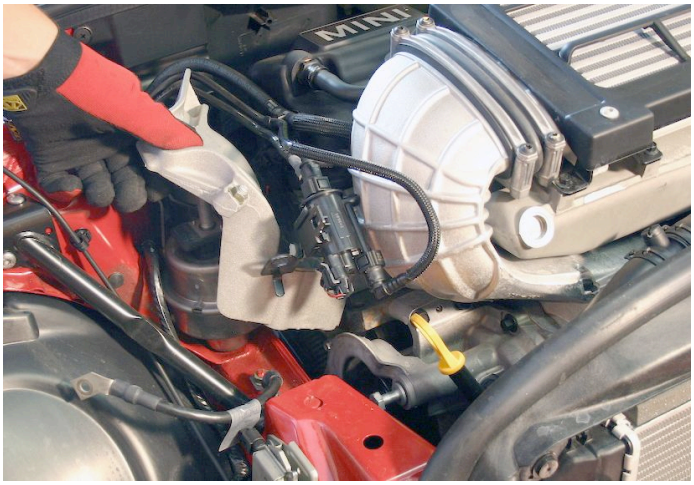
6) Remove intake system from car to access driver side motor mount. This step will vary greatly depending on intake system installed. Removing ECU plugs, and harnesses is a necessary step for all intakes. Remove ECU cover (to small tabs on each side), using suitable tool, pull-tabs on front and back of ECU plugs. This will eject plug off of ECU. (Shown in left pic below)
7) Once intake system is removed, remove (2) 10mm bolts holding fuse block to chassis. Move fuse block toward center of car to expose (3) 16mm motor mount bolts. (Shown in right pic below)
8) Remove (3) long 16mm bolts from motor mount on driver's side. (Shown in right pic below) Once removed, put towel between cast aluminum mount and chassis. This will protect the chassis from getting scratched by the motor mount when raising engine up.

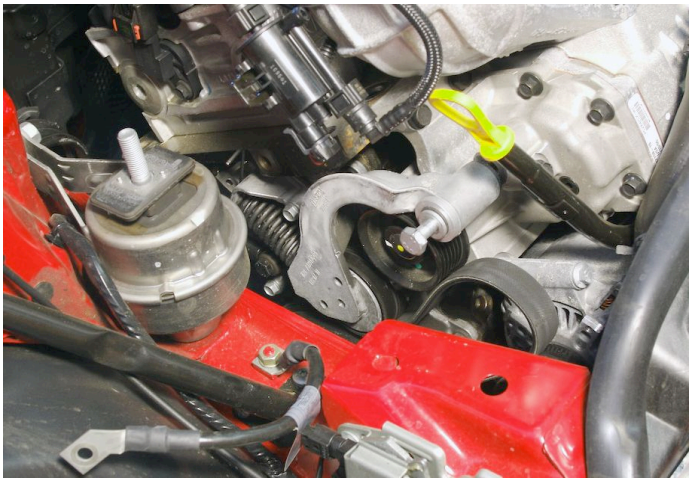
9) Remove grounding strap on passenger side connecting chassis to motor mount. (Shown in left pic below)

10) Remove passenger side motor mount nut located on chassis motor mount. 02-04 cars will need to remove pitch control bracket. This requires the removal of a vertical 16mm bolt and a horizontal 16mm bolt. (Shown in left pic below)
11) Remove (4) 16mm bolts from passenger side engine mount bracket. (Shown in right pic below)

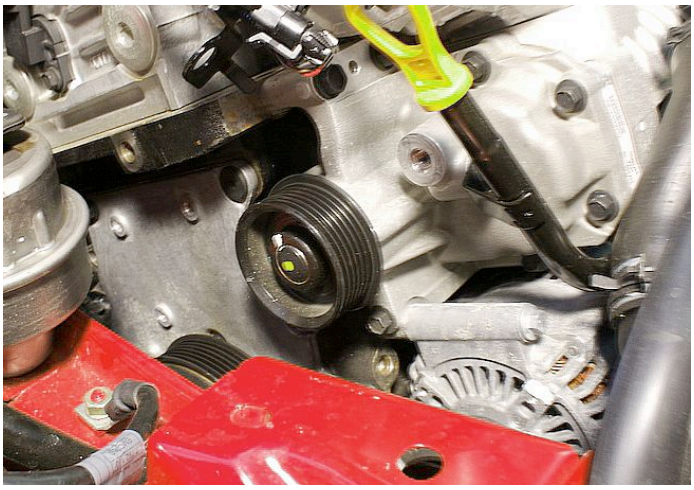


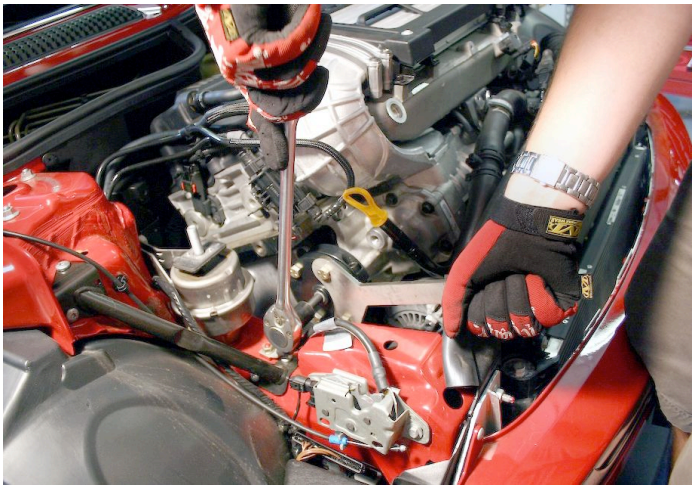
12) Unclip purge solenoid valve from bracket and remove mounting bracket from car. (Shown in left pic below)
13) Using jack, raise engine up until pulley puller can be installed onto OEM supercharger pulley. Some wiggling of engine may be necessary as engine is raised up.
14) Remove 16mm bolt from supercharger pulley tensioner pivot bolt from car. (Right pic below shows bolt completely loosened)



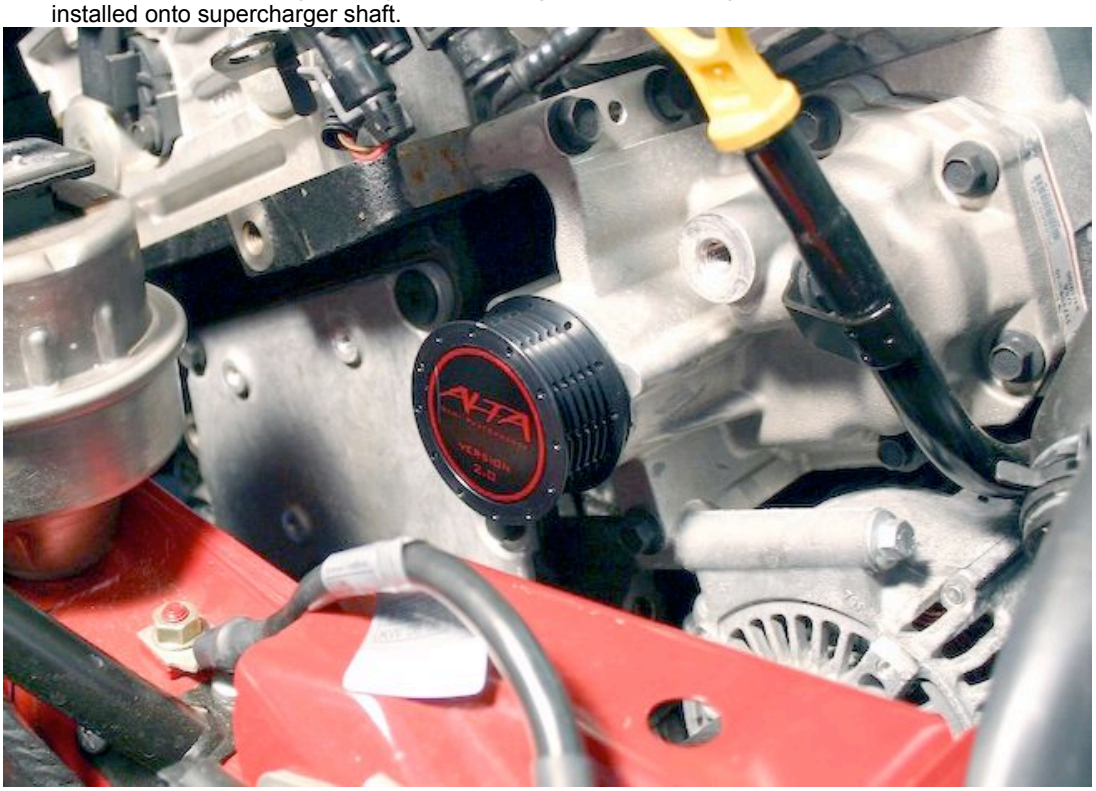


15) Remove (2) 10mm bolts, and (1) 15mm bolt, holding tensioner bracket to engine. The 15mm bolt is behind tensioner toward rear of motor. Remove tensioner assembly from car.
16) Take note as to how serpentine belt routes around each accessory pulley. Remove belt from OEM supercharger pulley, leave wrapped around other pulleys. (Left pic below shows tensioner, and belt removed)
17) Install Special supercharger puller onto supercharger pulley according to instructions included with puller. Remove pulley from supercharger shaft. If supercharger pulley removal tool is needed please contact an authorized dealer. (Right pic below shows ALTA professional removal tool being used)





18) Install ALTA Supercharger pulley to supercharger shaft according to above instructions. Picture below shows pulley completely installed onto supercharger shaft.



19) Reinstall belt around all pulleys, the same way it was removed. Refer to above chart to determine which size belt is recommended, and replace with correct size if needed. Also replace if more than 20,000 miles are on car.
20) Reinstall pulley tensioner assembly and tighten bolts to OEM torque spec.
21) Reinstall passenger side motor mount bracket to engine and tighten bolts to OEM torque spec.
22) Reinstall purge solenoid to bracket.
23) Lower engine back down slowly. When drivers side motor mounts begins to line up with bolt holes, install large 16mm bolts removed in previous step, and tighten to OEM torque spec.
24) Lower engine further, when passenger side motor mount bracket begins to line up with motor mount, reinstall nut and tighten to OEM torque spec.
25) Lower engine completely, and reinstall lower motor mount bolt through mount and bracket. Tighten to OEM torque spec.
26) If vehicle is a 02-04, reinstall pitch-control bracket on passenger side of vehicle.
27) Reinstall coolant hose bracket to manifold, and coil pack to top of valve cover. Tighten bolts to OEM torque spec.
28) Using Mini Serpentine belt tensioner tool, or suitable pry bar, put tension on serpentine belt tensioner, and remove installed screw or screw driver from tensioner lock down tab. Slowly release tension on tensioner until it is fully extended.
29) Reinstall intake system, this step will vary greatly depending on type of intake system installed.
30) Connect ECU plugs to ECU. These work exactly the opposite as they are removed. Set plug onto ECU with ejector pin pulled back, then push ejector pin into plug. This should pull plug down onto ECU. Double check the plugs are connected, by lightly pulling up on them.
31) Start engine and look for pulley and belts running smooth and true. No belt squeal should be heard after installation is done properly. If squealing occurs, some belt misalignment may be the problem. This can be caused by the ALTA Supercharger pulley being installed wrong, or serpentine belt being installed wrong on other pulleys.

For questions & comments please contact
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